

### STATE OF WASHINGTON

## **2010 BIENNIAL TRANSPORTATION ATTAINMENT REPORT**

WASHINGTON'S TRANSPORTATION SYSTEM: GOALS, OBJECTIVES AND PERFORMANCE MEASURES

OFFICE OF FINANCIAL MANAGEMENT October 2010

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### **Message from the Office of Financial Management**

#### Dear Governor, Legislators and Interested Readers,

I am pleased to submit this 2010 Biennial Transportation Attainment Report on the state's transportation system. With this report, we are able to look at five years or more of data for many of the 18 measures included. Although fiscal impacts cannot be proven to drive performance, we have included fiscal data for the 2009-11 biennium that we think have made a difference. We also have included "contributing success factors" that influence our transportation system.

The performance measures tell much the same story as the last report. There is good news and there are challenges.

The good news is:

- The number and rate of traffic fatalities continue to decrease.
- Most state highways are in good or fair condition.
- Most state and local bridges are in good or fair condition.
- Ferry on-time performance is outstanding.
- Passenger rail performance is improving.
- The rates of growth for key indicators of congestion are beginning to level off.

Along with this good news, we recognize challenges ahead:

- The demands on our transportation system are growing as the population increases.
- Transportation is the largest contributor to global warming.
- Delivering the largest construction program in Washington's history with declining revenues is hard work.

Given these challenges, and the data we currently have, we have identified a number of areas of concern, including preservation and replacement of ferry vessels, preservation of small city roads, replacement of concrete highways, replacement of major bridges, lessening of congestion and implementation of new stormwater rules.

We look forward to working together with you, the public and our transportation partners to attain Washington's transportation goals.

Sincerely,

Marty Bian

Marty Brown, Director Office of Financial Management

### **PURPOSE OF TRANSPORTATION ATTAINMENT REPORTS**

#### Washington's Transportation Attainment Reports provide a high-level assessment of the state's progress in achieving its transportation goals using key performance measures and data.

#### **Statewide Transportation Goals**

In 2007, the Washington State Legislature amended RCW 47.04.280 to establish five statewide transportation policy goals to guide the planning, operation, performance of, and investment in the state's transportation system. They are not prioritized.

- *Safety*: To provide for and improve the safety and security of transportation customers and the transportation system.
- *Preservation:* To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.
- *Mobility (addressing congestion):* To improve the predictable movement of goods and people throughout Washington state.
- *Environment:* To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.
- *Stewardship:* To continuously improve the quality, effectiveness and efficiency of the transportation system.

In 2010, the Legislature added a sixth goal:

*Economic vitality:* To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy.

#### **Biennial Transportation Progress Reports**

Since 2008, the Office of Financial Management has been responsible for establishing objectives and performance measures for each of the legislatively adopted goals, and for preparing a biennial progress report (also referred to as an "Attainment Report") for the Legislature and Governor (RCW 47.04.280). The purpose of these reports is to assess progress on the goals and contribute positively to the performance of the transportation system. Rather than report on agency-specific performance, the focus is on overall system performance.

Most of the objectives and measures were developed with input from transportation agencies, stakeholders and the Legislature in 2008, and are updated here. This report provides a high-level indicator for each measure to allow the quick assessment of progress. In some cases, placeholders indicate that measures have yet to be developed.

Many of the measures and supporting data are being used to make investment decisions, develop strategies and programs, provide accountability and promote stronger internal management. All of the measures will evolve as we continue to make progress in assessing the performance of the multifaceted components of Washington's transportation system.

#### Washington's transportation system:

- Is under increasing pressure as population and employment grow. Population has increased more than 9 percent since 2004, totaling 6.7 million today, including 3.2 million employed.
- Is owned and operated by many entities. These include local, regional, tribal, state and federal governments; transit agencies; ports; and private parties.
- Includes infrastructure such as roads and bridges. The state is served by 174,022 lane miles of highways, roads and streets. Our infrastructure also includes bridges, airports, marine ports, railroads, bicycle and pedestrian facilities, and ferry and transit systems.
- Includes key transportation services. These are transit, passenger rail, ferry service and air travel, as well as other modes.

#### 2009 Key Facts

#### On the ground

- 5.1 million licensed drivers
- 4.2 million registered passenger vehicles
- 6.8 million total registered vehicles
- 56 billion vehicle miles traveled
- 531 gallons of fuel consumed per vehicle per year on average
- 17.22 miles per gallon on average
- 9,601 miles per vehicle on average
- 18,389 state highway lane miles
- 78,916 county road lane miles
- 35,548 city road lane miles (2006)
- 42.5% of traffic on county roads and city streets
- 56.2% of traffic on state highways
- 1.2 million miles of roads snowplowed
- 7,638 bridges statewide
- 233 miles of HOV freeway lanes complete
- 357 park-and-ride and park-and-pool lots
- 2,498 vanpools
- 20,014 vanpool riders daily
- 31 transit systems
- 220 million transit passenger trips
- 523,808 state-supported Amtrak Cascades passenger trips
- 128,000 Amtrak-supported Cascades passenger trips in state
- 92.8 billion of cargo passing through ports (2007)
- 435 million tons of freight carried by truck (2007)

## • 17 state-managed airports (9 owned by state)

- 139 public use airports
- 599,840 tons of air cargo passing through airports (2008)

#### On the water

In the air

- 21 ferries, largest system in the nation
- 20 terminals
- 75 port districts
- 9 ferry routes
- 450 daily sailings
- 22.7 million ferry passengers
- 10 million vehicles carried on ferries
- 3.1 million 20-foot container equivalent units through Seattle and Tacoma ports

Sources: OFM; Dept. of Licensing; Wash. State Dept. of Transportation. Data is 2009 unless otherwise noted.

### **STATEWIDE TRANSPORTATION GOALS, OBJECTIVES AND PERFORMANCE MEASURES**

#### SUMMARY OF PROGRESS — 2010 STATUS

GOAL 1. SAFETY						
To provide for and improve th	e safety and security o	f transportation custom	ners and the	transportation system.		
Measures	Objective	Status	Progress	Five-Year Trend		
Measure 1.1 Traffic Fatalities Number and rate of traffic fatalities per 100 million vehicle miles traveled (VMT)	Reduce fatalities 491 traffic fatalities in 2009, lowest statewide since 1955		*			
	Reduce rate of traffic fatalities per 100m VMT	0.87 rate in 2009, a 25.6 percent decrease from 2005	*	*- <b>*</b> - <b>*</b> - <b>*</b>		
Measure 1.2 Collision Reduction Number of collisions and percentage resulting in serious or fatal injuries	Reduce number of collisions	6.9 percent reduction in collisions from 2008 to 2009	*			
	Reduce severity of collisions	Serious injuries increased 3.6 percent from 2008 to 2009, yet decreased 7.7 percent from 2005	*			
	GOAL 2.	PRESERVATION				

#### To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

Measures	Objective	Status	Progress	Five-Year Trend
<b>Measure 2.1 Highway Pavement</b> Percent of state highway pavement in fair or better condition	Extend the useful life of pavement	94.7 percent of state highway pavement in fair or better condition in 2008	*	+ + + + +
Measure 2.2 Bridges Percent of state bridges rated structurally deficient (SD)	Keep bridges safe and open to traffic	5.3 percent of bridges were rated SD in 2009, a 0.2 percent decrease from 2008	*	
<b>Measure 2.3 Ferry Terminals</b> Percent of state ferry terminals in fair or better condition	Extend the useful life of existing ferry facilities, systems, equipment	85 percent in 2009, similar to 2008 and 2007 data	*	N/A

#### SUMMARY OF PROGRESS (CONTINUED)

Go	AL 3. MOBILITY (A	DDRESSING CONGES	TION)	
To improve the	predictable movement	of goods and people thr	oughout the	state.
Measures	Objective	Status	Progress	Five-Year Trend
Measure 3.1 Annual Hours of Delay per Traveler Annual hours of delay per traveler on major corridors in greater Seattle and Spokane areas	Reduce congestion on urban highways and arterials (Seattle)	2-hour reduction from 2006 to 2007	*	
	Reduce congestion on urban highways and arterials (Spokane)	1-hour increase from 2006 to 2007	*	
Measure 3.2 Avoided Annual Hours of Delay per Traveler Annual hours of delay avoided through operational or public transportation enhancements	Reduce congestion by making our existing system more efficient	11 hours of additional delay avoided in 2007	*	
Measure 3.3 High Occupancy Toll (HOT) Lanes Usage of HOT lanes on SR 167	Operate existing highway capacity more effectively	Pilot project shows usage of HOT lanes doubling since 2008	N/A	N/A
Measure 3.4 High Occupancy Vehicle (HOV) Lanes Usage of Seattle-area network of HOV lanes by Person Miles Traveled (PMT)	Reduce congestion on Washington highways and arterials	HOV usage increased 10 percent by PMT in Seattle area from 2006 to 2007	*	
Measure 3.5 Drive-Alone Rate Percentage of commute trips taken while driving alone	Reduce percentage of commuters who drive alone to work	Drive-alone rate decreased 1.6 percent from 2007 to 2008	*	****
<b>Measure 3.6 Ferries</b> Ridership and percent of trips on time for Washington State Ferries	Increase ridership	Ridership remained flat between 2008 and 2009, but is down 4.5 percent since 2005	٠	+
	Increase percentage of on-time trips	Seasonal on-time trips remain greater than 90 percent, except summer season (shown)	*	

#### SUMMARY OF PROGRESS (CONTINUED)

G	DAL <b>3. M</b> OBILITY (4	ADDRESSING CONGES	TION)	
Measure 3.7 Passenger Rail Ridership and percent of trips on time for Washington and Amtrak- sponsored Cascades train service	Increase ridership	Ridership increased 0.4 percent from 2008 to 2009, and is up 21.2 percent since 2005	*	
	Increase percentage of on-time trips on-time trips increased for all seasons in 2009 (fall season shown)		*	• <b>•</b> •••
	GOAL 4.	Environment		
To enhance Washington conservatio	n's quality of life throug n, enhance healthy con	Jh transportation invest Amunities and protect th	ments that p ne environmo	romote energy ent.
Measures	Objective	Status	Progress	Five-Year Trend
Measure 4.1 Fish Passage Number of culverts fixed and miles of stream habitat opened up	Increase number of culverts fixed	12 culverts were fixed in 2009, up from 10 in 2008	•	++
	Increase number of potential miles of habitat gained	14 miles of potential habitat were gained in 2009, up from 13 in 2008	٠	
Measure 4.2 Storm Water Runoff Quality Number of storm water treatment facilities constructed	Improving the quality of water resulting from storm water runoff on highways	2009 permit issued by Ecology greatly expanded WSDOT coverage area	N/A	N/A
Measure 4.3 Air Quality Tons of greenhouse gases produced statewide	Reduce greenhouse gas emissions caused by transportation	New data will not be available until late 2010	N/A	N/A

#### SUMMARY OF PROGRESS (CONTINUED)

	GOAL 5.	Stewardship		
To continuously impre	ove the quality, effectiv	eness and efficiency of	the transporta	ation system.
Measures	Objective	Status	Progress	Five-Year Trend
Measure 5.1 Capital Project Delivery Percent of 2003 (Nickel) and 2005 (Transportation Partnership Act or TPA) revenue packages' capital projects completed on-time and on- budget	Deliver at least 90 percent of Nickel and TPA projects on-time	89 percent on-time in FY10, down 1 percent from FY09	٠	<b></b>
	Deliver at least 90 percent of Nickel and TPA projects on- budget	92 percent on-budget in FY10, up 4 percent from FY09	*	* <u></u>
	GOAL 6. EC	DNOMIC VITALITY		
To promote and the mov	l develop transportation vement of people and g	n systems that stimulat	e, support, an rous economy	d enhance
Measures	Objective	Status	Progress	Five-Year Trend
<b>Measure 6.1 Jobs Created</b> Number of jobs created or sustained by transportation projects	Create and sustain jobs through investments in transportation	Estimated jobs have increased 39.1 percent from 2003–05 biennium to 2009–11 biennium	N/A	N/A
<b>Measure 6.2 Freight</b> Amount of freight cargo moving in, out and within Washington through the air, by water or by rail	Enhance transportation systems to facilitate movement of freight	Air, water, rail decreased by 0.9 percent from 2007 to 2008 while highway freight increased 6.7 percent from 2002 to 2007	*	

## **SAFETY** TO PROVIDE FOR AND IMPROVE THE SAFETY AND SECURITY OF TRANSPORTATION CUSTOMERS AND THE TRANSPORTATION SYSTEM.

#### **Objective: Reduce fatalities.**

In 2009, Washington had the lowest rate for highway fatalities in the state's history.

#### **Trend Analysis**

Between 2008 and 2009, the number of traffic fatalities decreased from 521 to 491, a 5.7 percent drop. Also between 2008 and 2009, the rate of fatalities fell from 0.94 per 100 million vehicle miles to 0.87, a 7.4 percent drop. Since 2005, fatalities are down 24.3 percent and the rate of fatalities per 100 million vehicle miles is down by 25.6 percent. The rate of fatalities in Washington continues to trend below the national average.







#### State Investment Highlight

The Legislature provided \$2.7 million for a pilot program to increase trooper enforcement of driving under the influence. The Legislature intends that an additional \$1.8 million be provided in 2011–13 to conclude the pilot.

The Legislature also provided \$281 million for safety improvements. The Traffic Safety Commission provided grants in 2009–11 to the Washington State Patrol for 21 fully equipped patrol vehicles and up to 24 months of salaries and benefits for 18 troopers and three sergeants.

- Target Zero, the state's safety plan to reduce highway deaths to zero by 2030
- Increased trooper enforcement
- Infrastructure investments such as rumble strips, guardrail retrofits and roadway realignment
- Safer vehicles
- Motorists driving less

## **SAFETY** TO PROVIDE FOR AND IMPROVE THE SAFETY AND SECURITY OF TRANSPORTATION CUSTOMERS AND THE TRANSPORTATION SYSTEM.

#### **Objective: Reduce number and severity of collisions.**

## Collisions are decreasing on all public roads statewide.

#### **Trend Analysis**

Collisions have dropped 16.5 percent in the past five years. Serious injuries have decreased 7.7 percent over the same period. The state's seat belt usage rate continues to trend at least 10 percent above the national figure during the same period. In 2009, 96.4 percent of Washington drivers wore their seatbelts, the second-highest rate in state history and the fourth highest in the United States.

#### State Investment Highlights

- \$500,000 for more community traffic safety task forces
- \$400,000 for traffic safety camera pilot program
- \$500,000 to purchase ignition interlock devices
- \$50,000 for teen safe driving projects

#### **Contributing Success Factors**

- Engineering enhancements on roadways, including roundabouts and rumble strips
- Click It or Ticket program
- 2010 Distracted Driving Law (RCW 46.61.667) expected to have positive benefits in future



82.0% 83.0% 84.0%

2008

2009

USA 🚽

82.0%

2005

81.0%

2006

2007

Sources: WTSC; National Occupant Protection Use Survey

## **PRESERVATION** To MAINTAIN, PRESERVE AND EXTEND THE LIFE AND UTILITY OF PRIOR INVESTMENTS IN TRANSPORTATION SYSTEMS AND SERVICES.

#### **Objective: Extend the useful life of pavement.**

Washington consistently maintains more than 90 percent of its state highway pavement in fair or better condition.

#### **Trend Analysis**

Over the past decade, the Washington State Department of Transportation (WSDOT) has consistently maintained more than 90 percent of state highway pavement in fair or better condition. The 94.7 percent surveyed in fair or better condition in 2008 is the highest percentage in the 40 years of survey data. Over the five years shown in the graph, the state improved pavement conditions by almost 5 percent. The state typically gets 15 years out of its asphalt lifecycle, longer than what most states are able to achieve.



#### Discussion

There are 18,389 state highway lane miles, compared to 78,916 lane miles for counties and 35,548 for cities. About 56 percent of all traffic is carried on state highways.

2010 County Road Pavement Condition	Percent Fair or Better
Arterials	91%
Collectors	95%
Source: CRAB	

2008 City Road Pavement Condition	Percent Fair or Better
Large Cities (> 25,000 pop.)	83%
Medium Cities (5,000–25,000 pop.)	72%
Small Cities (<5,000 pop.)	66%
Source: WSDOT – Highways and Local Programs	

#### State Investment Highlight

The state supports cities and counties by distributing to them about half of the base 23 cents of gas tax. The state also sends support through grants by the Transportation Improvement Board for cities and urban counties, and by the County Road Administration Board for county roads. Total state support provided through both groups is \$315 million.

During 2009–11, WSDOT will spend \$346 million, including \$136 million from the Recovery Act, on replacing or repairing pavement.

- Dowel bar retrofits
- Selective panel replacements on concrete roadways

## PRESERVATION

TO MAINTAIN, PRESERVE AND EXTEND THE LIFE AND UTILITY OF PRIOR INVESTMENTS IN TRANSPORTATION SYSTEMS AND SERVICES.

#### Objective: Keep bridges safe and open to traffic.

More than 90 percent of bridges in Washington are in fair or better condition.

#### **Trend Analysis**

In 2009, 7,638 Washington bridges were inventoried. Bridge structural condition standards have been established by the Federal Highway Administration. Ratings relate to the evaluation of bridge superstructure, deck, substructure, structural adequacy and waterway adequacy codes.



Of Washington's bridges, 5.3 percent are

structurally deficient. This is half the national average. Structurally deficient bridges are safe for travel if weight restrictions are in place. Typically, the structurally deficient finding means that bridge inspectors have identified some deterioration, cracks or movement. Washington had 405 of these bridges as of 2009.

Percentage of Structurally Deficient Bridges: 2009 State Comparison								
Rank State Number of Bridges Number Structurally Deficient Percent								
1	Pennsylvania	22,293	6,060	27.2%				
43	Oregon	7,215	477	6.6%				
47	Washington	7,638	405	5.3%				
	National Total	603,245	71,179	11.8%				

Source: FHWA

#### State Investment Highlight

The Legislature provided:

- \$78.1 million for bridge repairs
- \$95.2 million for bridge replacements
- \$2.0 million for bridge scour
- \$25.4 million for seismic retrofits

- Perform required inspections on state-owned bridges
- Manage assets and review inspection data biannually
- Repair deteriorated bridge elements such as concrete columns, expansion joints and anchor cables to preserve life
- Extend bridge service life by repainting steel structures; also repair and overlay concrete bridge decks
- Perform seismic retrofit of bridges and scour repairs of bridge piers in rivers to proactively minimize damage to bridges due to earthquakes and flooding

# **PRESERVATION** To MAINTAIN, PRESERVE AND EXTEND THE LIFE AND UTILITY OF PRIOR INVESTMENTS IN TRANSPORTATION SYSTEMS AND SERVICES.

#### Objective: Extend the useful life of existing ferry facilities, systems and equipment.

In 2009, 85 percent of state ferry terminals were in fair or better condition, compared to 84 percent in 2008.

#### **Trend Analysis**

With only three years of data, trend analysis is not yet possible. Vessel condition ratings will be available in early 2011.

State Ferry Terminals						
Year Good or Fair Condition						
2007	87%					
2008	84%					
2009	85%					

Terminal condition data is a composite of several ferry terminal systems, as shown below. Each system category is comprised of multiple components. For example, transfer spans include mechanical systems, electrical systems and structural parts. A "poor or worse" composite rating does not mean that ferry vessels or terminals are unsafe, but indicates where additional investments need to be made.

Washington State Ferries Structural Condition Rating for Terminal Systems						
	20	007	20	800	2009	
System	Fair or Better	Poor or Worse	Fair or Better	Poor or Worse	Fair or Better	Poor or Worse
Landing Aids	75%	25%	72%	27%	75%	25%
Vehicle Transfer Spans	91%	9%	86%	14%	84%	15%
Overhead Loading Systems	92%	8%	97%	3%	91%	9%
Trestle and Bulkheads	94%	6%	93%	7%	93%	7%
Pavement*	91%	9%	91%	9%	86%	9%
Buildings*	n/a	n/a	n/a	n/a	93%	1%
Passenger Only Facilities	n/a	n/a	n/a	n/a	93%	7%
Total Average	87%	13%	84%	15%	85%	13%
*5 percent of pavement and 6 percent of buildings were not rated in 2009, so totals for 2009 do not add up to 100 percent. Source: WSDOT Ferry Division						

#### State Investment Highlight

The Legislature provided \$46.2 million for terminal preservation.

- Emphasis on preservation over improvement funding
- Using life cycle cost model to identify when systems have reached the end of useful life
- Using concrete instead of timber for wingwalls and dolphins to extend useful life
- Performing thorough maintenance work to extend useful life of system components

#### **MOBILITY** TO IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### Objective: Reduce congestion on urban highways and arterials.

While congestion has increased significantly over the past 25 years, it has begun to stabilize in the past five years.

#### **Trend Analysis**

According to the Texas Transportation Institute's 2009 Urban Mobility Report, between 2003 and 2007 (the last year data are available), the annual hours of delay per driver in the Seattle area increased slightly to 46 hours and leveled off at 43 hours.

This followed a rapid increase in the number of hours of delay from the early 1980s through the mid-1990s, in which the average number of hours of delay during peak congestion hours more than quadrupled from 12 hours in 1982 to 50 hours in 1993.

The 2009 Urban Mobility Report ranks Seattle as the 19<sup>th</sup> most congested metropolitan area in the nation, a change from 4<sup>th</sup> in 1998.

Between 2003 and 2007 in Spokane, hours of delay per driver vacillated between eight and nine hours. Spokane's increase in delay had quadrupled from three hours in 1982 to 13 hours in 1993. Spokane is ranked as the nation's 83<sup>rd</sup> most congested urban area.

According to Inrix's 2009 National Traffic Scorecard, two areas on SR 520 and SR 16 made the top 100 "Worst Traffic Bottlenecks":



- #70 Westbound SR 520 between Bellevue Way and Lake Washington Blvd. WSDOT will begin construction in this area in 2011.
- #92 SR 16 Eastbound at Union Avenue/Exit 32B. WSDOT is constructing HOV lanes from the King County line south on I-5 through downtown Tacoma, and west on SR 16 to the Key Peninsula.

According to WSDOT's 2009 Congestion Report, the morning commute between Bellevue and Tukwila on I-405 had the worst congestion of the 38 commutes that WSDOT analyzes. When the highway is moving at posted speed, the commute should take 16 minutes. At the peak of the morning commute (estimated to be 7:50 a.m.), it takes commuters an average of 41 minutes to complete the 13.5-mile segment.

#### State Investment Highlight

The Legislature provided \$3.4 billion for the highway improvement program.

- Traffic volumes are down slightly between 2005 and 2007.
- More HOV lanes have been added in Everett and South King County, which have added capacity on some of I-5's busiest corridors.
- A segment of the North Spokane Corridor has opened up to traffic, relieving some of the traffic north of Spokane.

### **MOBILITY** To IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### **Objective: Reduce congestion by making our existing system more efficient.**

Washington drivers would have experienced an additional 11 hours of delay in 2007 without investments in public transportation and operational enhancements.

#### **Trend Analysis**

The benefits of public transportation and operational enhancements appear to be trending up since 2004, increasing from a benefit of nine to 11 hours of avoided delay. Operational enhancements include ramp meters, variable message signs, dynamic speed limit signs, incident response trucks and traveler information accessed through the Internet and by dialing 5-1-1.

While the population in the Seattle area has increased from 1.8 million residents in 1982 to 3.1 million residents in 2008, the number of hours of delay that commuters experience during peak congestion has remained relatively constant. In 2000, drivers experienced 46 hours of delay and in 2007 they experienced 42 hours of delay. Without public transportation and operational enhancements, drivers would have experienced 55 hours of delay in 2000 and 54 hours of delay in 2007.





#### State Investment Highlight

- \$26.3 million for traffic operations capital investments
- WSDOT awarded \$37.2 million through 110 public transportation grants to improve service between cities and purchase new buses and other equipment. It also has provided service for the elderly and persons with disabilities.

#### **Contributing Success Factors**

- Increased transit ridership. The chart at the bottom shows significant increases in ridership on public transportation between 2006 and 2008. King County Metro ridership increased from 99 million in 2005 to 119 million in 2008, a 20 percent increase. Spokane Transit had 11.1 million boardings in 2008, a 16.8 percent increase from 9.5 million in 2007.
- A growing inventory of intelligent transportation systems, as displayed below.
- More traveler information on WSDOT's website.

#### **WSDOT Intelligent Transportation Systems Inventory**

Statewide inventory as of Sept. 30, 2009

Number of devices or sites						
Device Type	2007	2008	2009	Approximate cost per-device or site		
Closed circuit television cameras (CCTV)	521	542	555	\$15,000-\$30,000		
Variable message signs (VMS)	179	181	186	\$100,000—\$250.000		
Highway advisory radio transmitters (HARS)	70	72	76	\$50,000		
Road/weather information systems (RWS)	94	97	100	\$25,000—\$50,000		
Metered ramps	137	137	143	\$10,000—\$100,000		
Traffic data stations	530	554	565	\$10,000-\$20,000		



Source: WSDOT Maintenance Office

#### **MOBILITY** TO IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### **Objective: Operate existing highway capacity more effectively.**

High occupancy toll (HOT) lanes on SR 167 have provided drivers of single occupant vehicles a faster option to get to their destination and have made general purpose lanes less congested.

#### **Trend Analysis**

With only two years of data, trend analysis is not yet possible. However, preliminary data suggest that drivers in both the HOT lanes and general purpose lanes are moving faster than they were before the HOT lanes were operational. Since opening, speeds in the HOT lanes have averaged 60 mph and speeds in the general purpose lanes 45 mph during peak congestion.

#### Discussion

The four-year HOT lanes pilot project to provide single occupant vehicles the option of paying to use HOV lanes started in May 2008. The revenue generated through use of the HOT lanes is expected to cover tolling operating costs as early as 2011. Cost of the average toll trip is between \$0.75 and \$1.00, and provides weekday drivers with an average time savings of 8 minutes in the peak hour in the northbound HOT lane and 4 minutes in the southbound HOT lane.





#### Comparing Average Speed of HOT Lanes vs. GP Lanes on SR 167

#### State Investment

Total investment in the SR 167 HOT lanes pilot is \$18.8 million, of which \$500,000 was appropriated for the 2009–11 biennium.



- HOT lanes cannot work effectively without law enforcement. The Washington State Patrol estimates a compliance rate between 95 and 97 percent.
- There has been a 17 percent reduction in collisions along the SR 167 corridor since the HOT lanes were implemented.

## **MOBILITY** To IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### **Objective: Reduce congestion on Washington highways and arterials.**

## Usage of high occupancy vehicle (HOV) lanes in the Seattle metropolitan area has increased nearly 26 percent in the past decade.

#### Trend Analysis

Since 2003, traffic on the Seattle-area network of HOV lanes has increased by 202,000 vehicle miles travelled per day, a 22 percent increase. Nine of 10 HOV lanes in the Puget Sound region consistently move more people than general purpose lanes.



#### State Investment Highlight

WSDOT will spend \$338 million in the 2009-11 biennium on 11 projects in the central Puget Sound region to improve the HOV system.

- Projects on I-5, SR 167 and I-405 have increased the size of the HOV lane network to 225 lane miles.
- Addition of HOV lanes in Everett and South King County has added capacity on some of I-5's busiest corridors.
- Effectiveness of HOT lanes, such as the four year pilot on SR 167, have added capacity for single occupant vehicles drivers willing to pay for a faster commute. Providing single occupant vehicles a choice to pay to use the HOV lanes also benefits general purpose lanes by decreasing the volume of vehicles using general purpose lanes.

### **MOBILITY** To IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### Objective: Reduce percentage of commuters who drive alone to work.

While the number of Washington commuters continues to increase, the percentage who drive alone is decreasing.

#### **Trend Analysis**

In 2008, 71.5 percent of Washington workers drove alone to work every day compared to 75.3 percent in 2004, almost a 4 percent drop in five years. This decline in drive-alone rates occurred when 400,454 more commuters were on Washington roads in 2008 than in 2004. In four of the past five years, the drive-alone rate has decreased.

#### Discussion

The biggest reduction in drive-alone rates has been for workers age 16 to 24. There has also been a small decline for workers age 25 to 44. Of the 400,454 additional commuters on the road in 2008 compared to 2004, more than half



have chosen alternative methods to get to their jobs than driving alone.

#### State Investment Highlight

The Legislature provided:

- \$7 million for vanpools
- \$.4 million for a flexible carpooling pilot project
- \$58 million for regional mobility grant projects
- \$300,000 for a Whatcom County transportation demand program

- Commute Trip Reduction uses employer-based programs that encourage the use of alternatives to driving alone. In 2009, the Commute Trip Reduction program removed 28,000 vehicles from state roadways every morning.
- The Growth and Transportation Efficiency Center program, part of the Commute Trip Reduction law, works with businesses, schools and neighborhoods to find new ways to encourage commuters to ride transit, vanpool, carpool, walk, bike, work from home and use other commute options besides driving alone.
- The Puget Sound region leads the nation in vanpooling, with 2,498 public vanpools operating each weekday.

#### **MOBILITY** TO IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### **Objectives: Increase on-time performance of Washington State Ferries.**

Washington State Ferries ridership has decreased nearly 10 percent since the beginning of the decade.

#### **Trend Analysis**

Washington State Ferries ridership remained flat from 2008 to 2009, increasing less than 1 percent. Ridership has declined 4.5 percent since 2005 and is down nearly 10 percent since the beginning of the decade. Seasonal on-time performance has remained above 90 percent during that same time period except for the summer season. Summer is consistently the weakest performing season, averaging a 86 percent on-time rate, typically due to greater numbers of trips and riders.

#### State Investment Highlight

- \$425.9 million for ferry operations
- \$213 million total for three new ferries

#### **Contributing Success Factors**

- A reservation system that allows ferry users to reserve a space on vessels for the Anacortes-Sidney, B.C. and Port Townsend-Keystone routes is being implemented.
- *The Chetzemoka*, a new 64-vehicle ferry, will be delivered in 2010 for use on the Keystone-Port Townsend route, with another two ferries to be delivered in 2011–13. This is expected to have a positive effect on future ridership.





• WSDOT is planning to expand the ferry reservation system for use throughout the system to relieve congestion near terminals and allow travelers to plan trips more effectively.

#### **MOBILITY** TO IMPROVE THE PREDICTABLE MOVEMENT OF GOODS AND PEOPLE THROUGHOUT THE STATE.

#### **Objectives:** Increase ridership and on-time performance of the Amtrak Cascades line.

#### On-time performance has improved from 47 percent in fall 2005 to 74.4 percent in fall 2009.

#### **Trend Analysis**

Over the past five years, ridership on Amtrak Cascades routes in Washington has increased 21.2 percent. At the same time, the number of on-time trips generally increased, but never exceeded 75 percent.

#### State Investment Highlights

The Legislature provided:

- \$34.9 million for rail operations
- \$98.4 million for rail capital

- Added a second direct round-trip to Vancouver, B.C. in 2009.
- Service between Portland Oregon and Seattle remains the most popular, carrying 561,396 passengers in 2009. Currently there are four round-trips, but the long-range plan envisions 13 round-trips, carrying 1.9 million passengers per year.
- Increased ridership also resulted from 2010 Winter Olympics in Vancouver, B.C. This will be captured in the next report.
- \$590 million in Recovery Act funds for high-speed intercity passenger rail service. This will be captured in the next report.



# **ENVIRONMENT**

TO ENHANCE WASHINGTON'S QUALITY OF LIFE THROUGH TRANSPORTATION INVESTMENTS THAT PROMOTE ENERGY CONSERVATION, ENHANCE HEALTHY COMMUNITIES AND PROTECT THE ENVIRONMENT.

#### Objective: Increase the number of culverts fixed and potential miles of habitat gained.

## WSDOT has opened approximately 755 miles of potential habitat to fish since 1991.

#### **Trend Analysis**

Over the past five years, WSDOT has fixed 72 culverts that opened 228 miles of potential habitat. In 2009, 12 culverts were fixed that opened 14 miles of potential habitat.

#### Discussion

In fall 2007, 1,904 crossings were identified by WSDOT as fish barriers. Of these, 1,470 are expected to yield a significant habitat gain once corrected. Since 1991, WSDOT has fixed 236 of these crossings

that open 755 miles of potential habitat.

#### State Investment Highlight

Funding of \$28.4 million has been awarded in the 2009-11 biennium for specific fish barrier removal and chronic deficiencies.

#### Contributing Success Factors

- Statewide inventory of culverts
- Coordination with the Washington Department of

Fish and Wildlife to identify and scope projects





# **ENVIRONMENT**

TO ENHANCE WASHINGTON'S QUALITY OF LIFE THROUGH TRANSPORTATION INVESTMENTS THAT PROMOTE ENERGY CONSERVATION, ENHANCE HEALTHY COMMUNITIES AND PROTECT THE ENVIRONMENT.

#### **Objective: Improving water quality by managing storm water runoff from highways.**

A new federal storm water permit will improve the monitoring of storm water runoff and maintenance of storm water facilities in Washington. However, this will require a significant state investment.

#### Discussion

In February 2009, the Washington State Department of Ecology issued a permit to regulate discharges from municipal storm sewers owned or operated by WSDOT. The permit expands WSDOT's water quality monitoring responsibilities.

#### State Investment Highlight

During the 2009–11 biennium, WSDOT will spend \$5 million preparing for the compliance requirements of the new National Pollutant Discharge Elimination System (NPDES) permit. The Joint Legislative Audit and Review Committee is reviewing whether WSDOT or the Department of Ecology should be the lead agency, as well as whether state employees or private contractors should perform the work. In addition, \$10 million for storm water and mitigation site improvements were funded in the transportation budget for capital projects.

#### **Contributing Success Factors**

- Detention ponds
- Grassy swales



#### WSDOT Stormwater Permit Coverage Areas - 1995 compared to 2009

Source: Washington Dept. of Ecology: Municipal Stormwater Permit Areas - WSDOT 2/4/2009

# **ENVIRONMENT**

#### TO ENHANCE WASHINGTON'S QUALITY OF LIFE THROUGH TRANSPORTATION INVESTMENTS THAT PROMOTE ENERGY CONSERVATION, ENHANCE HEALTHY COMMUNITIES AND PROTECT THE ENVIRONMENT.

#### **Objective: Reduce greenhouse emissions caused by transportation.**

#### Transportation is the biggest contributor to greenhouse gas emissions in Washington.

#### **Trend Analysis**

Washington remains committed to reducing greenhouse gases across all sectors, including transportation. New greenhouse gas data will be available in late 2010 and collected every two years thereafter. A number of measures passed in the interim reflect the state's commitment to reducing emissions. In 2008, the Governor's goal of reducing emissions by 2050 to 50 percent below 1990 levels was codified. This was intended to decrease the annual per person number of vehicle miles traveled statewide. In 2009, the Legislature established greenhouse gas reductions for state agencies. Agencies are required to report their 2005, 2008 and 2009 emissions and develop strategies to meet reduction requirements. WSDOT's emission findings for 2009 are included as an example.



#### Total State Greenhouse Gas Emissions - 1990 and 2005 Millions of Metric Tons CO2 Equivalent

Source	Major GHG-Producing Activities	2009 Emissions (metric tons carbon dioxide equivalents)	Percentage of Total WSDOT Emissions
Ferry	Ferry vessel operation	172,878	64%
Vehicle Fleet	Operating trucks, passenger vehicles, specialized equipment	35,011	13%
Utilities	Buildings, traffic lights, street lights	50,936	19%
Employee Business Travel	Commercial flights, personal vehicles	2,117	1%
Employee Commute		8,851	3%

#### WSDOT Direct Greenhouse Gas Emissions - 2009

Table Note: Utility use was estimated based on utility costs and rate factors provided by the Department of Ecology. Source: WSDOT - Emissions Inventory Data 2009

#### State Investment Highlight

The Legislature directed \$200,000 in one-time funding for the Climate Action Team.

- Analysis of greenhouse gas emissions required of each state agency
- Washington is launching the nations' first electric vehicle highway
- Commute Trip reduction program reduced 27,490-metric tons of greenhouse gases and saved 3 million gallons of fuel in 2009

## **STEWARDSHIP** To CONTINUOUSLY IMPROVE THE QUALITY, EFFECTIVENESS AND EFFICIENCY OF THE TRANSPORTATION SYSTEM.

## Objective: Deliver at least 90 percent of Nickel and Transportation Partnership Act projects on time and budget.

## WSDOT is at the peak of its capital delivery program for the Nickel and Transportation Partnership (TPA) revenue packages.

#### **Trend Analysis**

There are 421 projects on the combined Nickel and TPA construction project list. Since the beginning of the program, 272 projects have been completed, 92 percent completed on time, 89 percent within budget, and 83 percent on time and within budget. By December 2010, 347 of 421 projects will be either complete or under construction.



#### State Investment Highlight

A total of \$2.6 billion has been invested in Nickel and TPA projects.

- Low inflation
- Competitive bid environment
- WSDOT organizes public quarterly project delivery meetings attended by OFM and legislative staff
- Multi-agency permit teams streamline permitting process
- WSDOT accountability reports are published quarterly

# **ECONOMIC VITALITY**

TO PROMOTE AND DEVELOP TRANSPORTATION SYSTEMS THAT STIMULATE, SUPPORT AND ENHANCE THE MOVEMENT OF PEOPLE AND GOODS TO ENSURE A PROSPEROUS ECONOMY.

#### **Objective: Create and sustain jobs through investments in transportation.**

## The 2009–11 highway capital budget is estimated to support 20,300 direct, indirect and induced jobs.

#### **Trend Analysis**

In the 2009–11 biennium, WSDOT estimates its highway construction program was responsible for creating or sustaining 20,300 jobs, which was a 39.1 percent increase from the 2003–05 biennium estimates. However, as construction projects are finished, WSDOT estimates that jobs will decrease 80.3 percent by the 2017–19 biennium.

#### State Investment Highlights

- \$3.3 billion in capital improvement
- \$761 million in capital preservation
- \$328 million in capital grants

- The 2003 Nickel and 2005 TPA gas tax funding packages are estimated to support 10,000 direct, indirect and induced jobs annually.
- The Recovery Act reportedly put 19,000 people to work for 3 million hours; they have earned \$130 million since February 2009.
- 74 percent of highway program funds are contracted out to the private sector.
- A competitive bidding climate continues to prevail.



# **ECONOMIC VITALITY**

TO PROMOTE AND DEVELOP TRANSPORTATION SYSTEMS THAT STIMULATE, SUPPORT AND ENHANCE THE MOVEMENT OF PEOPLE AND GOODS TO ENSURE A PROSPEROUS ECONOMY.

#### **Objective: Enhance transportation systems in order to facilitate movement of freight.**

Washington's total exports were valued at \$51 billion in 2009, making Washington 1<sup>st</sup> in the nation for per capita exports and 4<sup>th</sup> in the nation for total exports.

#### **Trend Analysis**

Air, water and rail freight data are available on an annual basis. All three modes showed slight to moderate decreases from 2007 to 2008. Truck freight data is collected by the Federal Highway Administration every five years and will not be available again until 2012.

*Air freight:* In 2004, planes carried 1.2 million tons of cargo. In 2008, they carried 1.4 million tons, an increase of 16.6 percent.

*Water freight:* In 2004, vessels carried 117 million tons of cargo. In 2008, vessels carried 122 million tons, an increase of 4.2 percent.

*Rail freight:* In 2004, rail carried 99 million tons of cargo. In 2008, rail carried 116 million tons, an increase of 17.1 percent.

Current *truck freight* data was not available for inclusion in the trend analysis. However, in 2002, 282 million tons were moved. In 2007, 301 tons were moved, an increase of 6.7 percent.



#### State Investment Highlight

- \$19.2 million for freight rail track improvements
- \$8.7 million for freight rail track preservation
- \$1.1 million for freight rail train investments
- \$59.8 million for Freight Mobility Strategic Investment Board projects

- Emphasis on freight corridors and freight analysis
- Use of freight database

WASHINGTON STATE OFFICE OF FINANCIAL MANAGEMENT INSURANCE BUILDING + PO BOX 43113 OLYMPIA, WA 98504-3113 + (360) 902-0555 + FAX (360) 664-2832